Docket No.: 500.43001X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:

Norifumi NISHIKAWA et al.

Serial No. 10/634,993

Filed: August 6, 2003

For: DATABASE SYSTEM INCLUDING CENTER SERVER AND LOCAL SERVERS

SUPPLEMENTAL REQUEST FOR RECONSIDERATION UNDER 37 CFR §1.102(MPEP §708.02)

June 17, 2005

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Supplemental to the Request for Reconsideration filed on April 15, 2005, in view of the meeting between Mr. Brundidge and Mr. Laufer held on June 9, 2005 clarifying issues related to the granting of Petitions to Make Special, Applicants submit the following additional remarks.

It is submitted that the cited references, whether considered alone or in combination, fail to disclose or suggest the invention as claimed. In particular, the cited references, at a minimum, fail to disclose or suggest in combination with the other limitations recited in the claims:

a first feature of the present invention as recited in independent claim 1 including wherein a center server includes replication requesting means for requesting said local servers to replicate local databases and data consolidating

means for performing a process for consolidation of replicated local databases, and each of said local servers includes local database freeze requesting means responsive to the database replication request to request a database management system to freeze said local database, and database replicating means for causing said local storage subsystem to replicate, in said center storage subsystem, said local database stored in said local storage subsystem;

a second feature of the present invention as recited in independent claim 8 wherein a center server includes replication requesting means for requesting said local servers to replicate local databases and data consolidating means for performing a process for consolidation of said replicated local databases;

a third feature of the present invention as recited in independent claim 10 wherein a center server requests said local servers to replicate local databases and performs a process for consolidation of said replicated local databases, and each of said local servers responds to a request for database replication from said center server to request a database management system to freeze said local database and cause said local storage subsystem to replicate, in said center storage system, the local database stored in said local storage subsystem;

a fourth feature of the present invention as recited in independent claim 14 including a module for making a request to said local server for replication of said local database; a module for receiving a notice of remote volume split completion based on the replication request made to said database; a module for requesting

database freeze of a shadow image of said replication local database; a module for requesting volume split when the volume synchronization is completed to perform volume replication for reflecting update information applied to the replication database upon the shadow image;

a fifth feature of the present invention as recited in independent claim 15 including a module responsive to a request for replication of said database from said center server to request a database management system to freeze said local database; a module for requesting said local storage subsystem to cause it to replicate, in said center storage subsystem, said local database stored in said local storage subsystem; and a module for receiving a notice of split completion from said local storage subsystem based on said replication request;

a sixth feature of the present invention as recited in independent claim 16 including said center server includes a replication requesting unit which requests said local servers to replicate local databases and a data consolidating unit which performs a process for consolidation of said replicated local databases; and each of said local servers includes a local database freeze requesting unit responsive to a database replication request from said center server which requests a database management system to freeze said local database, and a database replicating unit which causes said local storage subsystem to replicate, in said center storage subsystem, said local database stored in said local storage subsystem; and

a seventh feature of the present invention as recited in independent claim 18 including said center server includes a replication requesting unit which

requests said local servers to replicate said local databases, and a data consolidating unit which performs a process for consolidation of said replicated local databases.

To the extent applicable to the present Petition, Applicants submit that although the distinguishing feature(s) may represent a substantial portion of the claimed invention, the claimed invention including said feature(s) and their inter-operation provides a novel storage system and system and method related to or implemented in or by said storage system not taught or suggested by any of the references of record.

The references considered most closely related to the claimed invention are briefly discussed below:

U.S. Patent No. 5,974,135 (Breneman et al.) discloses a teleservices system, workstation configuration, and teleservices manager application provide for integrated concurrent interactions with various host computer systems, an automatic call management system, and Internet/intranet servers. The teleservices system includes an automatic call distributor and call management system, a customer database system, various host systems providing terminal emulation based access, a hypermedia server with hypermedia data on multiple properties, host computer systems, or business locations. The teleservices workstation configuration includes a telephone server application that interfaces to the call management system, a patron server program that interfaces to the customer database system, and a configuration database that stores configuration for configuring each agent's workstation to access various ones of

the host computer systems, and identifying various ones of the properties for which the agent provides services. The teleservices workstation manager application controls and interfaces with the telephone server program, the patron server program, and the configuration database. Among other functions, the teleservices workstation manager automatically retrieves customer data from the customer database in response to receiving a telephone number for an incoming telephone call, automatically configures itself to provide terminal emulation sessions for various ones of the host computer systems and properties that the agent is authorized to service, and dynamically selects and retrieves hypermedia data for various ones of such properties. The various data sources are presented through an integrated user interface, and the agent is able to efficiently transfer information between the various systems. Breneman et al., at a minimum, fails to disclose or suggest a center server including replication requesting means for requesting said local servers to replicate local databases and data consolidating means for performing a process for consolidation of replicated local databases, and/or each of said local servers including local database freeze requesting means responsive to the database replication request to request a database management system to freeze said local database. More particularly, Breneman et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in

independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

U.S. Patent No. 5,757,669 (Christie et al.) discloses the ability to use an existing store-and-forward messaging network such as an electronic mail system to replicate data between computer sites. The replication provided by the present invention can be used with software applications, such as workgroup applications to replicate data located on multiple sites. Workgroup replication data is sent to other sites via electronic mail ("e-mail") messages. The present invention provides reliability features to handle errors in electronic mail transmissions. For example, the present invention provides the ability to reassemble objects at a replication site such that an object and all of its dependencies exist prior to the object's use at the site. Messages referred to as "ACK" messages are used to communicate a site's state and to provide other control information. Each site maintains latency information to determine transmission failures. Christie et al., at a minimum, fails to disclose or suggest a center server including replication requesting means for requesting said local servers to replicate local databases and data consolidating means for performing a process for consolidation of replicated local databases, and/or each of said local servers including local database freeze requesting means responsive to the database replication request to request a database management system to

freeze said local database. More particularly, Christie et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

U.S. Patent No. 6,263,053 (Kuftedjian et al.) discloses a telephone call processing system and method for providing operator service. The system maintains a number of customer directories, each customer directory having information pertaining to a number of subscribers of the customer. When an incoming telephone call is received by the system, the system automatically identifies the customer directory corresponding to the customer indicated by the telephone number dialed by the caller. Upon locating the appropriate customer directory, the system automatically switches access by the system operator thereto. Thereafter, the system operator may perform a search in the customer directory for the subscriber who the caller wishes to contact. Upon successfully locating information pertaining to the subscriber in the customer directory, the subscriber information may be communicated to the caller. Kuftedjian et al., at a

minimum, fails to disclose or suggest a center server including replication requesting means for requesting said local servers to replicate local databases and data consolidating means for performing a process for consolidation of replicated local databases, and/or each of said local servers including local database freeze requesting means responsive to the database replication request to request a database management system to freeze said local database. More particularly, Kuftedjian et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

U.S. Patent No. 6,792,436 (Zhu et al.) discloses a distributed cache management system controls individual cache objects so they are selectively updated if messages are received at another cache in an expected order and selectively invalidated if messages are received with certain error state, thus causing reference to be made to the central database. In specific embodiments of the invention, each change to an object in the central database is assigned a

unique version number with an inherent ordering to serialize all changes, and the version number is used as a key to determine if messages have been lost or otherwise received at a cache out of order. In a further specific embodiment, full object state information is communicated among caches without need for verification through the central database. Thus if messages are lost or received out of order, the state can be applied to the targeted objects in the local cache assuring full synchronization. Zhu et al., at a minimum, fails to disclose or suggest a center server including replication requesting means for requesting said local servers to replicate local databases and data consolidating means for performing a process for consolidation of replicated local databases, and/or each of said local servers including local database freeze requesting means responsive to the database replication request to request a database management system to freeze said local database. More particularly, Zhu et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

U.S. Patent Publication No. 2001/0056554 A1 (Chrabaszcz) discloses a system for fault tolerant execution of an application program in a server network, which includes: a first server for executing the application program; a cluster network database, coupled to the first server; an object, stored in the cluster network database, which represents the program and contains information pertaining to the program; a failure detection module which detects a failure of the first server; a second server coupled to the cluster network database; and a failover module which loads the application program in the second server upon detection of the failure of the first server. The information contained within the object includes: a host server attribute which identifies which server is currently executing the program; a primary server attribute which identifies which server is primarily responsible for executing the program; and a backup server attribute which identifies which server is a backup server for executing the program if the primary server experiences a failure. Chrabaszcz, at a minimum, fails to disclose or suggest a center server including replication requesting means for requesting said local servers to replicate local databases and data consolidating means for performing a process for consolidation of replicated local databases, and/or each of said local servers including local database freeze requesting means responsive to the database replication request to request a database management system to freeze said local database. More particularly, Chrabaszcz et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the

above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

U.S. Patent Publication No. 2002/0143791 A1 (Levanon et al.)

discloses a broadband system provides access to content to a number of user terminals. The system stores the content and has a database of information at least some of which information concerns the content. The system allows access by user terminals to the content in dependence of the information. The system receives new or updated content with associated metadata, the metadata containing data on the new or uploaded content, the system being arranged to store information derived from the metadata in the database for the received new or updated content, thereby allowing access to the content by user terminals. Levanon et al., at a minimum, fails to disclose or suggest a center server including replication requesting means for requesting said local servers to replicate local databases and data consolidating means for performing a process for consolidation of replicated local databases, and/or each of said local servers including local database freeze requesting means responsive to the database replication request to request a database management system to freeze said local database. More particularly, Levanon et al. does not disclose or suggest

the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

U.S. Patent Publication No. 2003/0009707 A1 (Pedone et al.) discloses a distributed data center system protocol is provided which includes providing a client having a failure detector, a primary data center, and a backup data center operatively interconnected. A transaction operation is provided from the client to the primary database server in the primary data center and the backup database server for execution. If the client detects a failure or suspects a failure of the primary database server, the transaction operation is provided to the backup database server, which becomes the new primary database server. The database server executing the transaction operation returns the executed transaction operation to the client. If the primary data center suffers a disaster, the backup data center takes over control. Pedone et al., at a minimum, fails to disclose or suggest a center server including replication requesting means for requesting said local servers to replicate local databases and data consolidating

means for performing a process for consolidation of replicated local databases, and/or each of said local servers including local database freeze requesting means responsive to the database replication request to request a database management system to freeze said local database. More particularly, Pedone et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

U.S. Patent Publication No. 2003/0149709 A1 (Banks) discloses methods, apparatus and computer programs for managing updates to replicated data, which enable one or many replicas of a data resource to be updated independently of a master copy of the data resource, and then each replica to be separately consolidated with the master copy. If data updates applied 'optimistically' to a local replica conflict with updates applied to the master copy (since the last consolidation with that replica), then the local updates will not be applied to the master copy. Instead, the conflicting local updates are replaced using the current version of the master copy-preferably by backing out the

conflicting update transactions and then applying the latest updates from the master copy. If there are no data conflicts when consolidation is performed, then both the master copy and the replica are successfully updated. This provides the high data availability and scalability of concurrently updatable replicas, while avoiding the complexity of conventional solutions to conflict resolution between replicas. The invention is applicable to on-line goods or services ordering applications, especially where replicas of a data resource are updated on a mobile device. Banks, at a minimum, fails to disclose or suggest data consolidating means for performing a process for consolidation of replicated local databases, and/or each of said local servers including local database freeze requesting means responsive to the database replication request to request a database management system to freeze said local database, and/or a module for requesting volume split when the volume synchronization is completed to perform volume replication for reflecting update information applied to the replication database upon the shadow image. More particularly, Banks does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of

the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

U.S. Patent Publication No. 2003/0217077 A1 (Schwartz et al.) discloses a method for storing updatable user data using a cluster of application servers includes: storing updateable user data across a plurality of the application servers, wherein each application server manages an associated local storage device which resides a local file system for storage of the user data and for metadata pertaining thereto; receiving a point-in-time copy (PTC) request from a client; freezing the local file systems of the plurality clustered application servers; creating a PTC of the metadata of each frozen local file system; and unfreezing the local file systems of the plurality of clustered application servers. Schwartz et al., at a minimum, fails to disclose or suggest a center server including replication requesting means for requesting said local servers to replicate local databases and data consolidating means for performing a process for consolidation of replicated local databases, and/or receiving a notice of remote volume split completion based on the replication request made to said database, and/or a module for requesting volume split when the volume synchronization is completed to perform volume replication for reflecting update information applied to the replication database upon the shadow image. More particularly, Schwartz et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in

independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

U.S. Patent Publication No. 2004/0054684 A1 (Geels) discloses a system a and method for determining sample preparation parameters for use in the preparation of metallographic samples with suitable sample preparation equipment; the system comprises first input means for inputting input values for a set of preparation criteria; first storage means adapted to store a plurality of preparation criteria and a plurality of sample preparation method parameters; processing means adapted to calculate a set of sample preparation method parameters based on the input values and the stored sample preparation method parameters; output means for the output of the calculated set of sample method parameters; second input means for receiving adapted sample preparation method parameters; and second storage means adapted to store the adapted sample preparation method parameters for subsequent retrieval by the processing means in connection with a subsequent determination of sample preparation method parameters requested by an authorized operator. Geels, at a minimum, fails to disclose or suggest a center server including replication requesting means for requesting said local servers to replicate local databases

and data consolidating means for performing a process for consolidation of replicated local databases, and/or each of said local servers including local database freeze requesting means responsive to the database replication request to request a database management system to freeze said local database. More particularly, Geels does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

U.S. Patent Publication No. 2004/0139235 A1 (Rashid et al.) discloses a system and method for synchronizing data between a mobile device and a remote computer or server connected to a centralized database. The invention includes three types of synchronization processes occurring: full, transaction and background synchronization; and permits these synchronization processes to occur even in situations where connection with the remote computer is temporarily lost. Rashid et al., at a minimum, fails to disclose or suggest a center server including replication requesting means for requesting said local servers to

replicate local databases and data consolidating means for performing a process for consolidation of replicated local databases, and/or each of said local servers including local database freeze requesting means responsive to the database replication request to request a database management system to freeze said local database. More particularly, Rashid et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

U.S. Patent Publication No. 2002/0042818 A1 (Helmer et al.) discloses a system and method for replicating temporary data created by a server. Temporary data for a local server is replicated periodically to a remote server. Temporary data for the remote server is also periodically replicated to the local server. If a server fails, another server begins processing user requests not responded to by the failed server. The user requests are processed with the benefit of the replicated temporary data. Repetitive user input and processing to create and process the temporary data is not required. Helmer et al., at a

minimum, fails to disclose or suggest data consolidating means for performing a process for consolidation of replicated local databases, and/or each of said local servers including local database freeze requesting means responsive to the database replication request to request a database management system to freeze said local database. More particularly, Helmer et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim 16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims.

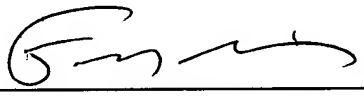
Therefore, since the cited references fail to disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 8, the above described third feature of the present invention as recited in independent claim 10, the above described fourth feature of the present invention as recited in independent claim 14, the above described fifth feature of the present invention as recited in independent claim 15, the above described sixth feature of the present invention as recited in independent claim

16 and the above described seventh feature of the present invention as recited in independent claim 18, in combination with the other limitations recited in each of the independent claims, it is submitted that all of the claims are patentable over the cited references whether said references are taken individually or in combination with each other.

In view of the foregoing, Applicant requests that this Petition to Make Special be granted and that the application undergo the accelerated examination procedure set forth in MPEP 708.02 VIII.

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.



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